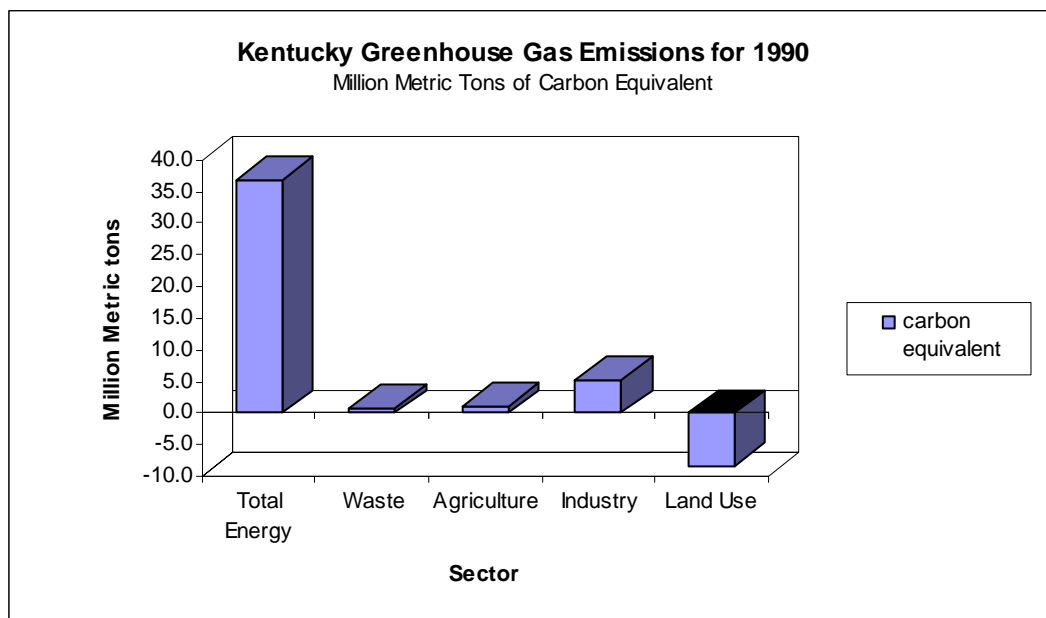


KENTUCKY GREENHOUSE GAS EMISSIONS AND SINKS INVENTORY: SUMMARY



The report “*Kentucky Greenhouse Gas Inventory*” provides a detailed inventory of greenhouse gas emissions and sinks for Kentucky in 1990. Emissions were estimated using methods from EPA’s 1995 guidance document ***State Workbook: Methodologies for Estimating Greenhouse Gas Emissions***. In 1990, Kentucky emitted 35.4 million metric tons of carbon equivalent (MMTCE). In addition, Kentucky estimated emissions of 0.4 MMTCE from biofuels. Emissions from biofuels are not included in the reported total or the table below.¹

The principal greenhouse gases were carbon dioxide, comprising 87.9 million metric tons (24.0 MMTCE), and methane, with 1.1 million metric tons (6.4 MMTCE). Other emissions included 0.0016 million metric tons of perfluorocarbons (PFCs) (4.8 MMTCE), and 0.003 million metric tons of nitrous oxide (0.2 MMTCE).

¹ Note that the state of the art emission inventory method has advanced since Kentucky completed its inventory; therefore, we revised Kentucky’s estimates to reflect updated values for global warming potentials. The most recent inventory guidance is available on the Internet at <http://www.epa.gov/ttnchie1/eiip/techrep.htm#green>.

Kentucky Greenhouse Gas Emissions for 1990

BY SECTOR	CO ₂ (MMTCE)	Methane (MMTCE)	Nitrous Oxide (MMTCE)	HFCs, PFCs, and SF6 (MMTCE)	Total GHG Emissions (MMTCE)
Energy - Residential	1.1	*	*	*	1.1
Energy - Commercial	0.7	*	*	*	0.7
Energy - Industrial	4.1	*	*	*	4.1
Energy - Transport	7.2	*	*	*	7.2
Energy - Utility	19.0	*	*	*	19.0
Energy - Exported Electricity	*	*	*	*	*
Energy - Other	*	*	*	*	*
Total Energy	32.0	4.8	*	*	36.8
Waste	*	0.7	*	*	0.7
Agriculture	*	1.0	0.2	*	1.2
Industry	0.4	*	*	4.8	5.2
Land Use	-8.5	*	*	*	-8.5
TOTAL	24.0	6.4	0.2	4.8	35.4

All emissions are reported in million metric tons of carbon equivalent (MMTCE).

An asterisk (*) indicates that emissions of the gas from this sector were zero, insignificant, or not reported.

Emissions due to coal mining and extraction of natural gas and oil are included in the energy – other figures, and emissions from biofuel combustion are excluded.

The major source of carbon dioxide emissions was fossil fuel combustion (96%), the majority of which is utility coal. Minor emissions came from cement and lime production and forest/grassland conversion. Carbon dioxide sinks (i.e., an increase in forest carbon storage) offset about 26% of the total carbon dioxide emissions. Sources of methane emissions were coal mining (73%), domesticated animals (12%), landfills (10%), manure management (3%), and natural gas/oil extraction (2%). Nitrous oxide emissions were from fertilizer use. Sources of perfluorocarbons were HCFC-22 production (91%) and aluminum production (9%).

Kentucky's emissions in 1990 were 9.6 MTCE per capita, compared to 1990 U.S. emissions of 6.4 MTCE per capita. Kentucky's per capita emissions are high due to the large volume of coal-related activities in the state.